MULTI-CAPILLARY DNA SEQUENCER

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Abstract

PROBLEM TO BE SOLVED: To enhance processing capability in a multi-capillary DNA sequencer furthermore.
SOLUTION: The exciting optical beams E emitted from lasers 3a and 3b enter a detecting part 2 in parallel with the scanning direction. The beams are applied on DNA fragments migrating in a capillary 1a by an objective lens 11, and the fluorescent mark is excited. The fluorescence from the excited DNA fragment is condensed at the objective lens 1 and diaphragmed by a condenser lens 13. The image is formed on a concave grating 16 by a concave mirror 14 through a pinhole 15. The spectrum obtained by spectroscoping at the concave grating 16 is detected by a detector 17, and the kind of end base of the DNA fragment is determined. A CPU 5 recognizes in which capillary the detected signal is located by accepting the signal from the detector 17 in synchronization with the scanning of the detecting part 2.